

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 89-086

SITE CLEANUP REQUIREMENTS FOR:

MICRO STORAGE CORPORATION	INTEL CORPORATION
	INTEL MAGNETICS FACILITY
KIM CAMP III	3000 OAKMEAD VILLAGE DRIVE LTD.
2986 OAKMEAD VILLAGE COURT	3000 OAKMEAD VILLAGE DRIVE
SANTA CLARA, SANTA CLARA COUNTY	SANTA CLARA, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. **Site History** Kim Camp III (KCI III) is the property owner at 2986 Oakmead Village Court (Figure 1). Micro Storage Corporation (MSC) occupied the site from January 1985 to December 1986, and used the site for research and development and pilot manufacturing. The chemicals used by MSC included trichlorotrifluoroethane (Freon 113), which has been found in the groundwater at the site. MSC was found to have lost ten gallons of Freon-113 while a tenant at the site. To date no evidence indicates that MSC used the pollutants trichloroethylene (TCE) and trichloroethane (TCA) also found in the groundwater at the site. Counsel for MSC has advised the Regional Board Staff that MSC Corporation was dissolved as a corporation by the State of California on August 16, 1988.

Another former tenant of 2986 Oakmead Village Court was International Diagnostic Technology, Inc. (IDT). IDT occupied the site from March 1979 to June 1984, and used the site for product storage, research and assembly of electro-optical instruments. To date, no evidence indicates that IDT or KCI III used the pollutants found in the groundwater at the site.

The property owner of 3000 Oakmead Village Drive since May 1985 has been 3000 Oakmead Village Drive Ltd. Prior to May 1985 the property was owned by Gate/King Properties Incorporated. Intel Magnetix (IM), a wholly owned subsidiary of the Intel Corporation (Intel), occupied the site from 1978 to 1987, and operated a magnetic bubble production and testing facility at the site. The chemicals used by IM included TCA and Freon 113. To date, no evidence indicates that 3000 Oakmead Village Drive Ltd. used the pollutants found in the groundwater at the site.

MSC (hereinafter referred to as a discharger) is a discharger because of the releases of chemicals that have resulted from its operations while a tenant at 2986 Oakmead Village Court. KCIIII (hereinafter referred to as a discharger) is a discharger because it is the current owner of the property where these releases have occurred. Intel (hereinafter referred to as a discharger) is a discharger because of the releases of chemicals that have resulted from its operations while a tenant at 3000 Oakmead Village Drive. 3000 Oakmead Village Drive Ltd. (hereinafter referred to as a discharger) is a discharger because it is the current owner of the property where these releases have occurred. None of the parties named in this Order have been shown to have used the pollutant TCE present in the groundwater at the site. An investigation is ongoing to attempt to determine the origin of the TCE.

2. **Subsurface Investigation** In early 1982, the Board initiated a leak detection program to define the extent of leakage from underground storage tanks and pipes in the South Bay area. As a result of these efforts, subsurface investigations at IM detected TCE, TCA, 1,1 dichloroethylene (1,1 DCE), and Freon-113 in the A water bearing zone (the shallowest or first encountered aquifer below the ground surface) at IM.

In August of 1986, Intel installed two monitoring wells on the KCIIII/MSK site to determine if an upgradient source existed. These wells showed groundwater pollution levels higher than any downgradient for several VOCs, thus indicating an upgradient source for a significant portion of the contamination found at the IM site.

Since 1982 eighteen monitoring wells have been installed in an attempt to define the vertical and horizontal extent of the plume. The A zone plume covers an area approximately 700 feet by 400 feet. At present, ground water quality of the B zone underlying the KCIIII/MSK site is unknown. However, results from a B zone monitoring well at the IM site indicate that the B zone has not been impacted.

Currently the A zone contains TCE up to 750 parts per billion (ppb), TCA up to 570 ppb, and Freon-113 up to 3400 ppb.

3. **Regulatory Status** The IM site was placed on the National Priority List (Superfund) in May 1986. However, based on the results of new wells installed on the upgradient KCIIII/MSK site and subsequent investigation conducted by KCIIII, the EPA now considers both the KCIIII/MSK site and the IM site as one combined Superfund site. EPA, in an October 12, 1988 memo to Board staff, indicated it has changed the Superfund site name from Intel Magnetics to Micro Storage/Intel Magnetics. A

September, 1988 technical report prepared by a consulting firm under contract to EPA has determined that the KCIIM/MS site is a primary source of VOC contamination.

KCIIM, MSC, Intel and 3000 Oakmead Village Drive Ltd. are all Potentially Responsible Parties under Federal Superfund (CERCLA/SARA) regulations.

4. **Hydrogeology** Two water bearing layers, designated as the A and B zones, have been identified. The shallowest, or A zone, has its upper boundary at about 5 to 8 feet deep, and lower boundary about 16 to 22 feet deep. The deeper B zone lies between 22 and 43 feet deep. The two zones are separated by an aquitard of 3 to 12 feet thick. It is suspected that hydraulic separation between the two zones is imperfect owing to the discontinuous nature of sediment types.

Shallow groundwater flow in the A zone beneath the KCIIM/MS/IM site is generally to the northeast. This flow regime is consistent with the northerly regional flow towards the San Francisco Bay.

5. **Interim Remedial Actions** Intel has been extracting A zone groundwater at the IM site since February 1985. A general decline in groundwater pollution levels was observed from February 1985 to August 1987. However, in August 1987, Freon-113 levels began to increase (Figure 2). These data, along with similar increases observed in other downgradient wells, indicated that the increase was the result of a plume moving north from the upgradient KCIIM/MS site onto the IM site.

Pumped groundwater at the IM site is treated and then discharged to a storm sewer system tributary of Calabazas Creek as specified under NPDES Permit #CA0028941.

6. **Workplan** KCIIM submitted a workplan for the completion of a Remedial Investigation/Feasibility Study (RI/FS) on September 30, 1988, and revised workplans on February 6, 1989, and April 4, 1989.
7. **Scope of this Order** This Order adopts the RI/FS workplan and contains tasks for KCIIM to complete the RI/FS. In addition, this Order 1) outlines the requirements for a Self-Monitoring Program at the KCIIM/MS/IM site, 2) requires Intel and KCIIM to assist the Regional Board in the preparation of the Administrative Record, and 3) requires KCIIM to prepare a vertical conduit study.

On January 19, 1989, the Board adopted Order No. 89-017 which prescribed Site Cleanup Requirements to KCIIM and MSC and established tasks and time schedules to define the extent of the contaminants and implement interim remedial actions.

Pursuant to Specification B.2. of Order No. 89-017 and subsequent notice from the Executive Officer dated March 24, 1989, KCIII was ordered to comply with the Specifications of Order No. 89-017 because MSC had failed to comply with the Specifications of Order No. 89-017.

The intent of this Order is to supersede the requirements of Order No. 89-017 by updating the status of the site and prescribing a time schedule to complete final investigations and evaluate final remedial action alternatives, and in so doing, approve the workplan referenced in Finding 6 above. This Order rescinds Order No. 89-017.

8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and ground waters.
9. The existing and potential beneficial uses of the groundwater underlying and adjacent to the site include:
  - a. Industrial process water supply
  - b. Industrial service water supply
  - c. Municipal and Domestic water supply
  - d. Agricultural water supply
10. The dischargers have caused or permitted, and threaten to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.
11. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
12. Ongoing interim containment and cleanup measures need to be continued to alleviate the threat to the environment posed by the migration of pollutants and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives.
13. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

14. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers shall cleanup and abate the effects described in the above findings as follows:

A. **PROHIBITIONS**

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. **SPECIFICATIONS**

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. KCI and MSC shall conduct monitoring and investigatory activities as needed to define the current local hydrogeologic conditions, and the lateral and vertical extent of soil and groundwater pollution. Should monitoring results show evidence of pollutant migration, additional characterization of pollutant extent may be required.

C. **PROVISIONS**

1. KCI and MSC shall submit to the Board acceptable monitoring program reports containing results of work performed according to a program as attached.
2. Intel shall comply with provision C.4.a. below.
3. If Intel fails to comply with applicable provisions of this Order, within 60 days of the Executive Officer's determination and actual notice to Intel and 3000 Oakmead Village Drive Ltd., 3000 Oakmead Village Drive Ltd. as landowner, shall comply with the provisions of this Order.

4. KCIIII and MSC shall comply with Prohibitions A.1., A.2., and A.3., and Specifications B.1. and B.2. above, in accordance with the following time schedule and tasks:

INTEL COMPLETION DATE/TASK

- a. COMPLETION DATE: **July 1, 1989**

TASK: ADMINISTRATIVE RECORD: Submit a technical report acceptable to the Executive Officer containing a proposal for developing the Administrative Record, for the time period of January 1, 1982 to December 31, 1986, as outlined in EPA's guidance on Administrative Records.

KCIIII and MSC COMPLETION DATE/TASK

- b. COMPLETION DATE: **July 1, 1989**

TASK: ADMINISTRATIVE RECORD: Submit a technical report acceptable to the Executive Officer containing a proposal for developing the Administrative Record, to cover the time period beginning on January 1, 1987 and onward, in EPA's guidance on Administrative Records.

- c. COMPLETION DATE: **July 15, 1989**

TASK: INVESTIGATION OF VERTICAL CONDUITS Submit a technical report acceptable to the Executive Officer, that 1) inventories and evaluates the potential for nearby wells to act as vertical conduits for interaquifer cross-contamination, and 2) recommend further investigations and monitoring, or destruction of such wells.

- d. COMPLETION DATE: **October 1, 1989**

TASK: SUBMIT DRAFT REMEDIAL INVESTIGATION REPORT Submit a technical report acceptable to the Executive Officer, pursuant to the workplan described in Finding 6, containing the results of the remedial investigation.

- e. COMPLETION DATE: **March 31, 1990**

TASK: SUBMIT DRAFT FEASIBILITY STUDY REPORT Submit a technical report acceptable to the Executive Officer, pursuant to the workplan described in Finding 6 and the technical report submitted for Task C.4.d., containing an evaluation of the installed interim remedial measures, a feasibility

study evaluating alternative final remedial measures, the recommended measures necessary to achieve final cleanup objectives, and the time schedule necessary to implement the recommended final remedial measures.

f. COMPLETION DATE: **June 15, 1990**

TASK: SUBMIT FINAL REMEDIAL INVESTIGATION AND FEASIBILITY STUDY REPORT AND PROPOSED REMEDIAL ACTION PLAN Submit a technical report acceptable to the Executive Officer based on the previous technical reports submitted for Task C.4. and agency comments on the previous technical reports submitted for Task C.4.

5. The RI/FS workplan, as described in Finding 6, is hereby approved.
6. The submittal of technical reports evaluating immediate, interim and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study must be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents issued with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".
7. Any proposal for the discharge of extracted groundwater included in the technical report required in Provisions C.4.e. and C.4.f. must initially consider the feasibility of reclamation, reuse, or discharge to a publicly owned treatment works (POTW), as specified in Board Resolution No. 88-160. If it can be demonstrated that reclamation, reuse, or discharge to a POTW is technically and economically unfeasible, a proposal for discharge to surface water shall be considered.
8. If the dischargers are delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer and the Board may consider revision to this Order.

9. KCIIII and MSC shall submit technical reports summarizing the status of compliance with the Prohibitions, Specifications, and Provisions of this Order on a quarterly basis, according to the schedule below, commencing with the report for the second quarter 1989, due July 31, 1989.

Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Period	Jan.-March	April-June	July-Sept.	Oct.-Dec.
Due Date	April 30	July 31	October 31	January 31

The quarterly reports shall include;

- a. a summary of work completed since the previous quarterly report, and work projected to be completed by the time of the next quarterly report,
  - b. appropriately scaled and labeled maps showing the location of all monitoring wells, extraction wells, and existing structures,
  - c. cross sections depicting subsurface geologic information and corresponding correlations based on boring data,
  - d. updated water table and piezometric surface maps for all affected water bearing zones, and isoconcentration maps for key pollutants in all affected water bearing zones,
  - e. a cumulative tabulation of all well construction data, groundwater levels and chemical analysis results for site monitoring wells specified in the sampling plan,
  - f. identification of potential problems which will cause or threaten to cause noncompliance with this Order and what actions are being taken or planned to prevent these obstacles from resulting in noncompliance with this Order, and
  - g. in the event of noncompliance with the Provisions and Specifications of this Order, the report shall include written justification for noncompliance and proposed actions to achieve compliance.
10. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist, engineering geologist or professional engineer.
11. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.



12. The dischargers shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
13. Copies of all reports pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be provided to the following agencies:
  - a. Santa Clara Valley Water District
  - b. Santa Clara County Health Department
  - c. City of Santa Clara
  - d. State Department of Health Services/TSCD
  - e. U. S. Environmental Protection Agency, Region IX

The Executive Officer shall receive three copies of all correspondence, reports and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order.

The dischargers shall provide copies of all correspondence, reports and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, to each of the other dischargers named in this Order.

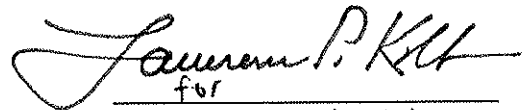
14. The dischargers shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:
  - a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
  - b. Access to copy any records required to be kept under the terms and conditions of this Order.
  - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
  - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.
15. The dischargers shall file a report on any changes in site occupancy and ownership associated with the sites described in this Order.
16. If any hazardous substance, as defined pursuant to Section 25140 of the Health and Safety Code, is

discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the dischargers shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.

17. Order No. 89-017 is hereby rescinded.

18. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 17, 1989.

A handwritten signature in cursive script, appearing to read "Steven R. Ritchie", with the word "for" written in small letters below the signature.

Steven R. Ritchie  
Executive Officer

Attachments

Self-Monitoring Program

Figure 1-Location Map

Figure 2-VOC concentrations vs time



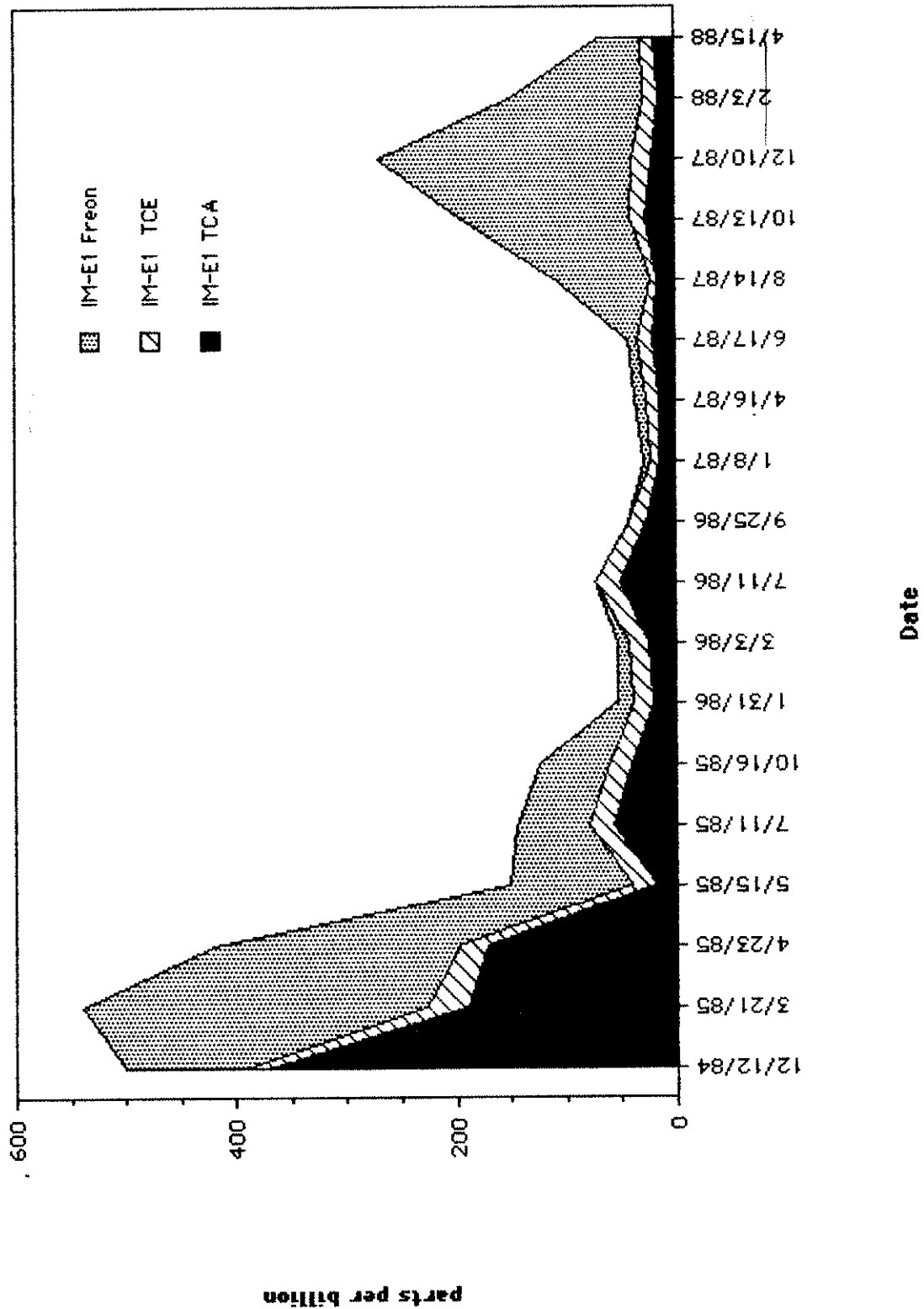


Figure 2. Micro Storage/Intel Magnetics, VOC concentration vs time in extraction well IM-E1.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

MICRO STORAGE CORPORATION  
KIM CAMP III

2986 OAKMEAD VILLAGE COURT FACILITY  
CITY OF SANTA CLARA  
SANTA CLARA COUNTY

AND

INTEL CORPORATION  
3000 OAKMEAD VILLAGE DRIVE LTD.

3000 OAKMEAD VILLAGE DRIVE FACILITY  
CITY OF SANTA CLARA  
SANTA CLARA COUNTY

ORDER NO. 89-086

CONSISTS OF

PART A, Dec. 1986  
As Modified by SBTB, 1/23/87  
With Appendices A-E

and

PART B, adopted on May 17, 1989

PART B

MICRO STORAGE CORPORATION  
KIM CAMP III

2986 OAKMEAD VILLAGE COURT FACILITY  
CITY OF SANTA CLARA  
SANTA CLARA COUNTY

AND

INTEL CORPORATION  
3000 OAKMEAD VILLAGE DRIVE LTD.

3000 OAKMEAD VILLAGE DRIVE FACILITY  
CITY OF SANTA CLARA  
SANTA CLARA COUNTY

I. DESCRIPTION OF SAMPLING STATIONS

All existing and future A, B, and deeper zone monitoring and extraction wells as appropriate. See Table 1 (attached) for list of monitoring wells.

II. MISCELLANEOUS REPORTING. None.

III. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in Table 1 (attached).

IV. MODIFICATIONS TO PART A.

A. Delete Sections B, D, E, F.2., F.3., G.1., G.2., G.4.b., G.4.d.2., G.4.e, G.4.f.1., and G.4.g.

B. The first paragraph of Section G.4 shall be changed to read as follows:

Written reports shall be filed with the Regional Board regularly for each calendar quarter (unless otherwise specified) and filed no later than the last day of the month following the quarter for which the report covers. The reports shall be compromised of the following:

C. Section G.4.a.1.) shall be changed to read as follows:

- 1) Identification of all violations of the site cleanup order and self-monitoring program found during the reporting period.

- D. The first paragraph of Section G.4.d. should be changed to read as follows:

Tabulations of the results from each required analysis specified in Part B by date, time, type of sample and detection limit and station.

- E. Section G.4.d.4) shall be changed to read as follows:

4) Lab results shall be signed by the laboratory director, copied, and submitted as an appendix to the regular report.

- F. Insert Section G.4.d.5) to read as follows:

The EPA Method 8240 analyses shall include tentative identification and semi-quantified concentrations of non-priority pollutant substances of greatest apparent concentration, to be followed by identification and confirmation of peaks of greatest concentration.

- G. The first sentence of Section F.1. shall be changed to read as follows:

Written reports, strip charts, calibration and maintenance records, and other records shall be maintained by the dischargers or the analytical laboratory, and retained for a minimum of three years.

- H. Section G.5 shall be changed to read as follows:

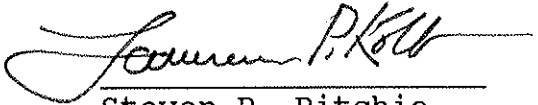
By January 30 of each year, the dischargers shall submit an annual report to the Regional Board covering the previous calendar year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a comprehensive discussion of the compliance record and all corrective action taken or planned which may be needed to bring the dischargers into full compliance with the site cleanup Order and self-monitoring requirements.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with site cleanup requirements established in Regional Board Order No. 89-086.

2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the dischargers, and revisions will be ordered by the Executive Officer or Regional Board.
3. Was adopted by the Board on May 17, 1989.

May 17, 1989  
DATE

  
\_\_\_\_\_  
Steven R. Ritchie  
Executive Officer

Attachments: Table I



TABLE 1  
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

SAMPLING STATION >>>>	IM-1,2,3,4,5,6,7,8,9,10,11 IM-E1,E2,E3 MW-1,2,3,4 **			
TYPE OF SAMPLE	G			
EPA 8010/8020 for: purgeable priority pollutants and Freon-113	Q			
GC/MS (EPA 8240) Open Scan	1/Y*			

LEGEND FOR TABLE 1

G = grab sample  
Q = quarterly  
1/Y = once per year

\* EPA 8010/8020 not required for months when EPA 8240 is performed.

\*\* During the first and third quarters of each year only the following selected wells must be sampled: IM-1, 2, 3, 4, 6, 8, 10, 11 and MW-4, 5, 6.